

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/005495

International filing date (day/month/year)
19.05.2004

Priority date (day/month/year)
23.05.2003

International Patent Classification (IPC) or both national classification and IPC
H01F38/14, B01F7/00, B01F15/00, B01F15/06, B01F13/08, G01K17/00, H05B6/02

Applicant
GLAXO GROUP LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/EP2004/005495

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/005495

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	5-8,12,13,15-19,25,29-34,38,45,55,48,58,59
	No: Claims	1-4,9-11,14,20-24,26-28,35-37,39-44,46,47,49-54,56,57
Inventive step (IS)	Yes: Claims	5-8,12,13,15-19,25,29-34,48,58,59
	No: Claims	1-4,9-11,14,20-24,26-28,35-47,49-57
Industrial applicability (IA)	Yes: Claims	1-59
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2004/005495

Re Item V.

1. The following documents are referred to in this communication:

D1 : EP 0 605 977 A
D2 : DE 37 36 170 A
D3 : US 2002/047008 A1
D4 : GB 2 175 815 A
D5 : DE 34 30 876 A
D6 : DE 33 14 824 A

2. INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

2.2 Document D1 discloses an energy delivery system for delivering energy to a content in a vessel, the system having:

- a contactlessly-powerable energy emitting device (D1: 19) which is adapted to be positioned inside the vessel (D1: 10) and contactlessly-powered (D1: 24) when inside the vessel to emit energy to the content and which has a control mechanism adapted in use to control the operation of the energy emitting device in accordance with a prescribed regime (D1, col. 2, l. 58: "built-in thermostat"),
- a power supply (D1: col. 3, l. 30-36) adapted in use to contactlessly-couple with the energy emitting device for powering thereof when inside the vessel.

2.3 As a consequence, present claim 1 is not new in the sense of Article 33(2) PCT.

3. INDEPENDENT CLAIM 35

3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 35 is not new in the sense of Article 33(2) PCT.

3.2 Document D2 discloses an energy delivery system for delivering energy to a content in a vessel, the system having:

- a contactlessly-powerable energy emitting device (D2: 36) which is adapted to be positioned inside the vessel (D2: 30) and contactlessly-powered (D2: 14, 16) when

inside the vessel to emit energy to the content (D2: 30),
-a power supply (D2: 21) adapted in use to contactlessly-couple with the energy emitting device for powering thereof when inside the vessel.
-a sensor (D2: 37) adapted in use to produce condition signals representative of a condition of the content,
-a control mechanism (D2: 20) adapted in use to control the amount of energy emitted by the energy emitting device in accordance with a prescribed regime,

3.3 Another energy delivery system for delivering energy to a content in a vessel with the same features as the subject-matter of claim 35 is disclosed in D3:

- contactlessly-powerable energy emitting device (D3: 14)
- vessel (D3: 10),
- contactlessly-coupling of energy (via coil 16 in D3),
- sensor and control mechanism (D3: par. 35).

3.4 As a consequence, present claim 35 is not new in the sense of Article 33(2) PCT.

4. INDEPENDENT CLAIM 39

4.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 39 is not new in the sense of Article 33(2) PCT.

4.2 Document D3 discloses a stirrer for stirring a fluid (D3: 14) having an energy emitting mechanism which is adapted to be contactlessly powered (via coil 16 in D3) to emit energy to the fluid.

4.3 The energy delivery system for heating an aquarium known from D2 is also regarded as having all features of the subject-matter of claim 39 because the pump for circulating the water (D2: 34) is regarded as being a stirrer and the heating element (D2: 36) is linked with the pump via the common secondary coil (D2: 14).

4.4 Further stirrers with all features of the subject-matter of claim 39 are known from D4 to D6.

4.5 As a consequence, present claim 39 is not new in the sense of Article 33(2) PCT.

5. DEPENDENT CLAIMS 2-4, 9-11, 14, 20-24, 26-28, 36-38, 40-47, 49-57

Dependent claims 2-4, 9-11, 14, 20-24, 26-28, 36-38, 40-47, 49-57 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) for the following reasons:

5.1 The additional features of the control mechanism varying the amount of emitted energy (claim 2), of the device being a heater (claim 3), of the device being self-contained (claim 4), of the device being electrically powerable and controllable (claims 9-11, 14), of a sensor for controlling the device (claims 20-24) and a regulator for regulating the amount of emitted power (claims 26-28) are all known from D1 (D1, col. 2, 52 - col. 3, 15: "electrical immersion heater 19", "built-in thermostat").

5.2 The additional features of energy affecting the sensed condition and the control mechanism receiving condition signals and varying the amount of energy (claim 36) and of the control mechanism regulating the amount of power transferred to the device (claim 37) are already known from D2 and D3 (D2: col. 4, l. 24-38; D3: par. 35).

5.3 The additional feature of the control mechanism using pulse width modulation (claim 38) is obvious in the field of inductive energy transmission.

5.4 The additional features of a contactlessly drivable stirrer (claim 40), of contactless powering (claims 41, 42, 46), of a control mechanism being operatively coupled to the device (claim 43, 46), of a programmable controller (claim 44), of a heating mechanism (claim 49), of a sensor (claim 50), of the sensor signals controlling the amount of emitted energy (claims 51-54) and of the sensor being a temperature sensor (claim 56) are already known from D2 and D3 (D2: col. 4, l. 24-38; D3: par. 35).

5.5 The additional features of the control circuit being contactlessly coupled to an external power supply (claim 47) and the stirrer having a transmitter and a receiver (claim 57) are already known from D2 (D2: col. 4, l. 24-38).

5.6 The additional features of a PWM controller (claims 45, 55) is obvious in the field of inductive energy transmission.

6. DEPENDENT CLAIMS 5-8, 12, 13, 15-19, 25, 29-34, 48, 58, 59

The combination of the features of dependent claims 5-8, 12, 13, 15-19, 25, 29-34, 48,

58, 59 are neither known from, nor rendered obvious by, the available prior art. The reasons are as follows:

6.1 The energy delivery system disclosed in D1 is not comprised in a stirrer (claims 5-8).

6.2 The base of the energy delivery system disclosed in D1 does not include a power supply because the rotary transformer is connected to mains (claim 12).

6.3 The energy delivery system disclosed in D1 does not comprise a stirrer (claim 13).

6.4 The energy delivery system disclosed in D1 does not explicitly comprise a controller using PWM (claim 15, 25, 31, 32) and such a controller does not seem to be adequate for the disclosed device.

6.5 The energy delivery system disclosed in D1 does not comprise a programmable controller (claim 16, 25) or an electrical control circuit (claims 17-19, 25).

6.6 The energy delivery system disclosed in D1 does not explicitly comprise a regulator with a transistor (claims 29, 30), a transmitter (claim 33) or a receiver (claim 34).

6.7 The stirrers disclosed in D2 and D3 do not have an energy emitting system which is a microelectronic device (claim 48).
